

WHAT IS CLAIMED IS:

1. An apparatus for aiding a machinist in preparing a programmed machine for a machining process, wherein a basic program is run for setting values of various machining variables based on information input by the machinist, the apparatus comprising:

an analyzing means for analyzing the variable values to determine the efficiency of the machining process; and

a notifying means for notifying an advisory message to the machinist regarding on how to improve the machining process in accordance with the analysis performed by the analyzing means.

2. The apparatus according to claim 1, wherein the analyzing means compares a value of at least one of the variables with a criterion to judge whether or not the machining efficiency can be improved, and wherein the notifying means notifies a message if the machining efficiency can be improved.

3. The apparatus according to claim 1, wherein the notifying means includes a display device for displaying a message.

4. The apparatus according to claim 1 further comprising a memory for storing a plurality of messages, wherein the notifying means selects a message from the memory in accordance with the analysis performed by the analyzing means and notifies the selected message.

5. The apparatus according to claim 1, wherein the basic

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program is run for setting the values of machining variables for a plurality of machining processes, wherein the apparatus comprises an input device for designating a certain one of the machining processes, and wherein the analyzing means analyzes the machining variables of the designated machining process.

10 6. The apparatus according to claim 1 further comprising a simulation program for simulating the execution of the basic program, wherein the analyzing means performs the analysis based on information produced by execution of the simulation program.

7. The apparatus according to claim 1, wherein the machining variables include the load applied to a spindle of the machine during a cutting operation.

8. The apparatus according to claim 1, wherein the machining variables include the cutting speed of a cutting tool attached to the machine.

9. The apparatus according to claim 1, wherein the machining variables include the rotating speed of a spindle of the machine during a cutting operation.

10. The apparatus according to claim 1, wherein the message advises the machinist to increase the cutting speed of a cutting tool.

11. The apparatus according to claim 1, wherein the message advises the machinist to change a cutting tool.

12. The apparatus according to claim 1, wherein the message advises the machinist to increase the rotating speed of a spindle of the machine.

5 13. An apparatus for aiding a machinist in preparing a programmed machine for a plurality of machining processes, wherein a basic program is run for setting values of various machining variables based on information input by the machinist, the apparatus comprising:

10 a computer for running a simulation program for simulating machining according to the basic program;

an input device for designating a certain machining process;

an analyzing means for analyzing the machining variables of the designated machining process to determine the machining efficiency of that machining process;

a memory for storing a plurality of messages that give advice to the machinist regarding on how to improve machining; and

a display means for selecting a message from the memory in accordance with the analysis performed by the analyzing means and displaying the selected message.

14. The apparatus according to claim 13, wherein the analyzing means compares a value of at least one of the variables with a criterion to judge whether or not the machining efficiency can be improved, and wherein the displaying means displays a message if the machining efficiency can be improved.

15. The apparatus according to claim 13, wherein the machining variables include the load applied to a spindle of

the machine during a cutting operation.

16. The apparatus according to claim 13, wherein the machining variables include the cutting speed of a cutting tool attached to the machine.

17. The apparatus according to claim 13, wherein the machining variables include the rotating speed of a spindle of the machine during a cutting operation.

18. The apparatus according to claim 13, wherein the message advises the machinist to increase the cutting speed of a cutting tool.

19. The apparatus according to claim 13, wherein the message advises the machinist to change a cutting tool.

20. The apparatus according to claim 13, wherein the message advises the machinist to increase the rotating speed of a spindle of the machine.

21. A method for aiding a machinist in preparing a programmed machine for a machining process, wherein a basic program is run for setting values of various machining variables based on information input by the machinist, the method comprising:

analyzing the current values of the machining variables to determine the current efficiency of the machining process; and

notifying an advisory message to the machinist regarding on how to improve the machining process in accordance with the analysis.